REMARKS

As an initial matter, Applicant appreciates the thorough examination by the Examiner.

The Examiner's Objections

The Examiner objects to the Information Disclosure Statement (IDS) as filed. In response, Applicant files concurrently herewith a proper IDS with accompanying citations and required fee.

The Examiner also objects to claim 13 as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. In response to the Examiner's objections, Applicant has amended dependent claim 13 to depend from independent claim 1. Applicant submits that claim 13 is now in proper form.

The Examiner's Rejections

The Examiner rejects claims 1-3 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,779,383 to Ayres. In response to the Examiner's rejections, Applicant submits amended claims and addresses the Examiner's concerns herein below.

The Examiner also rejects claims 4-13 under 35 U.S.C. §103(a) as being unpatentable over Ayres in view of—either alone or in combination with—the following patents: U.S. Patent No. 3,931,018 to North, U.S. Patent No. 5,549,816 to Harp, U.S. Patent No. 5,316,445 to Snetting, U.S. Patent No. 3,970,565 to Ahlstrand, U.S. Patent No. 4,800,020 to Savas, and U.S. Patent No. 3,799,342 to Greenspan.

Amended Independent Claim 1 is Not Anticipated by Ayres

The Examiner rejects, among others, independent claim 1 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,779,383 to Ayres. Applicant disagrees with the Examiner's assessment of the structure and function of Ayres for the reasons set forth below.

Ayres

U.S. Patent No. 3,779,383 to Ayres discloses a self-contained fluid separator assembly that is capable of separating blood into its component parts of plasma and cellular parts. Referring to Fig. 1, Ayres' assembly includes a container 12 having elastomeric closures 14, 16 mounted in each of the open ends 11, 15 of the container, and a piston 40 disposed within the container. The closure 16 is capable of receiving the sharp end of a cannula 18 (e.g., needle) penetrated into the closure for injecting blood into the container. The piston 40 includes a tubular metal insert 52 secured to the annular recess 54 of the piston. As configured, the metal insert 52 accompanies the piston 40 during centrifugation. The piston further includes a diaphragm 44 formed of resilient material and provided with a plurality of apertures 42. As the assembly is subjected to centrifugal force the light phase of blood passes into an annular recess 80 and the normally closed apertures 42 automatically open thereby permitting the light phase blood (e.g., plasma) to pass upwardly through the open apertures (see Figs. 1 and 2).

Accordingly, Ayres discloses a container having a piston that filters blood injected into the container via the sharp end of a needle. Ayres fails to disclose a container having a piston that is moved within the container by positive and negative pressures that are pneumatically introduced into the assembly containing the piston. As configured, the sole cause of piston movement in Ayres is centrifugal force and the sole function of the Ayres' piston is the filtration of blood components (e.g., plasma or serum and the cellular portion) under such force.

Ayres' Piston Does Not Move Under Pneumatic Force

In contrast to Ayres, the present invention includes a piston that is moveable within the syringe piston when positive and negative pressures are pneumatically introduced into the cylindrical vessel.

Prior to removal of fat from a patient's body, the rear side of the vessel b is closed by a rear cap 110 and a cannula 100 is connected to the front of the vessel (see Fig. 5). The rear cap is connected to an external pneumatic unit 120 and the cannula is inserted into a desired portion of a patient's body. The pneumatic unit is activated and negative pneumatic pressure draws the piston a to the rear of the vessel b and suctions blood, body fluids, and fat into the syringe vessel.

Thereafter, the cannula is removed, a front cap 130 is placed on the front of the vessel (see Fig. 3), the rear cap 110 is detached, and a closing screw 44 is released to open the free oil discharging hole 30 (see Fig. 2). The vessel is inserted into a centrifugal separator 140 and centrifugal force moves the piston a towards the front of the vessel b. During operation of the centrifugal separator density gradient centrifugation separates the mixture of blood, body fluids, and fat due to difference in the specific gravity of the components in the vessel. After centrifugation, the separated fat is retained in the front of the vessel.

Prior to injecting the separated fat into a desired portion of a patient's body, the front cap 130 is removed, the cannula 100 is connected to the front of the vessel, and the rear cap 110 is connected to the rear side of the vessel. The rear cap is connected to an external pneumatic unit 120 and the cannula is then inserted into a desired portion of a patient's body. The pneumatic unit is activated and positive pneumatic pressure moves the piston a to the front of the vessel b and injects the filtered fat into the desired area of the patient's body.

Ayres' Piston Does Not Operate in Two Distinct Modes

Moreover, Ayres fails to disclose a piston having two distinct modes of operation. The piston 40 of Ayres is limited to one mode of operation—i.e., passively separating blood during centrifugation into its component parts of plasma or serum (i.e., the light phase) and the cellular portion (i.e., the heavy phase). Ayres fails to disclose a device for suctioning of blood, body fluids, and fat from a patient, separating fat from the remaining components (e.g., free oil), and thereafter injecting the separated fat into a patient.

As claimed in the present invention (see amended claim 1), the present invention functions in two modes of operation. In a first mode of operation, one end of the inventive cylindrical vessel supports a cannula for pneumatically suctioning fat from a patient and pneumatically discharging centrifugally separated fat into a patient. In a second mode of operation, the cannula is replaced by a front cap for preventing the free oil and fat from exiting the vessel during the centrifugal separation of the fat from the remaining components. Ayres fails to disclose a device capable of more than one mode of operation.

Moreover, Ayres metal insert 52 is restricted in use because it always accompanies the piston. In contrast, the weight 60 of the present invention operates in two modes of operation. If the screw 44 is tightened during the process of centrifugation, the contents of the piston are only affected by the centrifugal force and not by the weight 60. If the screw is loosened during centrifugation, the contents of the piston are affected by the weight 60. Thus, with respect to claims 2 and 3, Ayres fails to disclose a weight of the type claimed in the present invention.

Ayres' is an Improper Reference and Cannot Be Combined with the Remaining Patents

The Examiner alleges that it would have been obvious to modify or combine Ayres—either alone or in combination with—North, Harp, Snetting, Ahlstrand, Savas, and Greenspan and arrive at the present invention as set forth in claims 4-13. Having set forth the structural and functional differences between Ayres and the subject invention, Applicant submits that Ayres is an improper reference under §102(b). Accordingly the Examiner's rejection of claims 4-13 under §103(b) in reliance upon Ayres as a primary reference is now improper.

That said, even assuming Ayres was proper and combined with one or more of the remaining references, none of the cited art discloses a cylindrical vessel supporting a cannula in a first mode for pneumatically suctioning fat from a patient and pneumatically discharging centrifugally separated fat into a patient, and the cylindrical vessel supporting a front cap in a second mode for preventing the free oil and fat from exiting the vessel during the centrifugal separation of the fat.

Thus, Applicant submits that claims 4-13, in view of amended independent claim 1, are now proper.

Amended Independent Claim 1 is Patentable

Amended independent claim 1 now recites a syringe piston having, among other elements, a piston body that (1) moves within the syringe vessel when positive and negative pressures are pneumatically introduced into the cylindrical vessel, and (2) functions in two modes of operation—i.e., pneumatically suctioning fat from a patient and pneumatically discharging centrifugally separated fat into a patient in a first mode, whereby one end of the cylindrical vessel supports a cannula, and preventing the free oil and fat from exiting the vessel during centrifugal separation of the fat in a second mode, whereby the one end of the cylindrical vessel supports a front cap.

Thus, Ayres fails to disclose all of the elements described in independent claim 1 and therefore must be removed as a §102(b) reference. Accordingly, Applicant submits that amended claim 1 is not anticipated by Ayres and is now allowable.

Claims 2-13 are Now Patentable

As set forth above, Applicant has amended claim 13 to properly depend from claim 1. Further, Applicant has amended claims 12 and 13 to delete the term "the" in lines 6 and 7, respectively, and substitute the term "an" therefore to avoid a potential rejection for lack of antecedent basis.

Applicant is paying for a one-month extension ($65.00) by credit card.

The Examiner is hereby authorized to charge any additional fees (or credit any overpayment) to Deposit Account No. 50–0332.

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CONCLUSION

Based on foregoing amendments and arguments, Applicant submits that pending claims 1-13 are now in immediate condition for allowance, and the same is respectfully requested.

Respectfully submitted,

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